

Title (en)

MOTOR THERMAL OVERLOAD PROTECTION METHOD

Title (de)

VERFAHREN FÜR WÄRMEÜBERLASTUNGSSCHUTZ EINES MOTORS

Title (fr)

PROCÉDÉ DE PROTECTION CONTRE LA SURCHARGE THERMIQUE DE MOTEUR

Publication

EP 4148930 A1 20230315 (EN)

Application

EP 22305891 A 20220620

Priority

CN 202111054779 A 20210909

Abstract (en)

The present disclosure relates to a method for motor thermal overload protection, comprising: obtaining a motor thermal limit curve; selecting a first and a second overload factor calculation point on the curve, and calculating the first and second overload factors based on a preset heating time constant; calculating a modified overload factor based on the first and second overload factors; selecting at least two time constant calculation points on the motor thermal limit curve, and calculating a modified heating time constant for each time constant calculation point based on the modified overload factor; obtaining a modified heating time function for each motor operating point based on the modified heating time constant for each time constant calculation point; calculating a stator heat level at each motor operating point based on the modified overload factor and heating time function; comparing the stator heat level with the first and second predetermined thresholds, and giving an alarm if the stator heat level is greater than the first predetermined threshold and less than the second predetermined threshold; stopping the motor if the stator heat level of the stator is greater than the second predetermined threshold.

IPC 8 full level

H02H 7/085 (2006.01)

CPC (source: EP US)

H02H 7/085 (2013.01 - EP); **H02P 29/024** (2013.01 - EP); **H02P 29/032** (2016.02 - EP US); **H02P 29/60** (2016.02 - EP);
H02H 6/005 (2013.01 - EP)

Citation (search report)

- [A] US 2014268432 A1 20140918 - BLAKELY JOHN [US], et al
- [A] US 2008170340 A1 20080717 - ROEHM HEIKO [DE], et al
- [A] EP 3404790 A1 20181121 - AUTONETWORKS TECHNOLOGIES LTD [JP], et al
- [A] US 2020341062 A1 20201029 - WANG BINGNAN [US], et al

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

EP 4148930 A1 20230315; CN 115776095 A 20230310; US 2023085119 A1 20230316

DOCDB simple family (application)

EP 22305891 A 20220620; CN 202111054779 A 20210909; US 202217902090 A 20220902